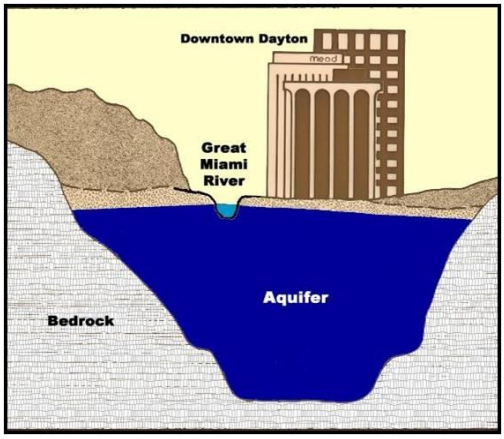
City of Dayton Department of Water ***2020 Water Quality Report***

CITY OF DAYTON
water
one source
Regional • Reliable • Renewable



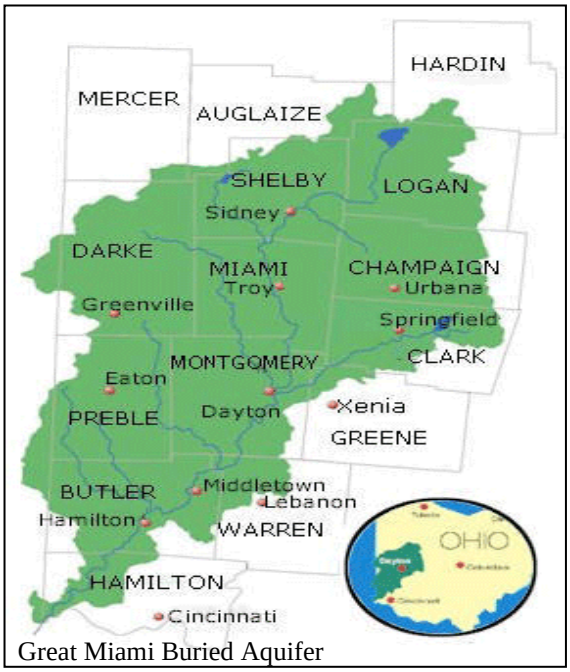
City of Dayton – Source of Water

High quality and abundant water is the single most important resource in the world. The Great Miami River Buried Valley Aquifer is one of the largest and most productive aquifer systems in the country.

An aquifer is an underground sand and gravel layer saturated with water. Water is stored in this vast underground reservoir. The Great Miami River Buried Valley Aquifer has sufficient water supply for many Southwestern Ohio communities.

Rainfall and thousands of miles of rivers and streams recharge this vast aquifer resource. These waterways recharge the groundwater supplies within the aquifer making the groundwater a truly "renewable" resource. The aquifer holds more than a trillion gallons of water, making our area very drought resistant and a water source you can depend upon. This valued resource serves as the principal water source for an estimated 1.5 million people in southwest Ohio.

Our regional aquifer resource is protected with an award winning source water protection program and sole source aquifer designation by the U.S. Environmental Protection Agency. This program includes land use control zoning, treatment of contaminated groundwater, early warning monitoring wells, and emergency preparedness. The City of Dayton received the first National Exemplary Wellhead Protection Award from the American Water Works Association and has been designated as a Groundwater Guardian Community by the Groundwater Foundation every year since 1995.



Great Miami Buried Aquifer

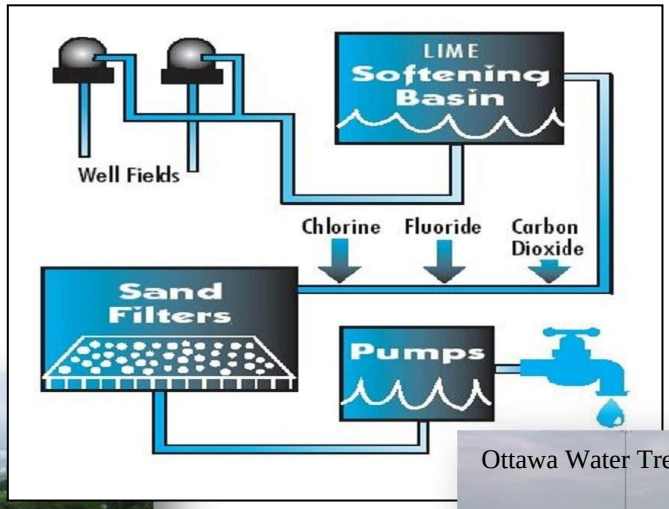
This Aquifer is a large underground area of water-bearing sand and gravel deposits. This groundwater is influenced by surface water. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.


Production Well

The City of Dayton Water Department treats and pumps drinking water to over 400,000 people in Montgomery County and part of Greene County. Water is supplied to water treatment plants by the Miami and the Mad River Well Fields. Wells pump groundwater from the Great Miami River Buried Valley Aquifer. Dayton uses recharge lagoons to help maintain the water table and allow large wells to efficiently pump water to the water plants. Dayton has approximately 110 production wells. Each of these large wells can pump from one to four million gallons per day.

Water Treatment Process

Dayton's water treatment plants use conventional lime (calcium oxide) softening processes. After softening, the pH of the water is adjusted using carbon dioxide. The water is fluoridated and then later disinfected using with chlorine. Rapid sand filtration is the final step in the water treatment process. Dayton's Ottawa Water Plant and Miami Water Plant have rated treatment capacities of 96 million gallons of water per day (for each plant). In 2020, Dayton treated and pumped approximately 22.7 billion gallons of water.




Miami Water Treatment Plant


Ottawa Water Treatment Plant

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which shall provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

City of Dayton Department of Water **2020 Water Quality Report**

We are proud to report that the City of Dayton complied with all MCL standards for drinking water during* **2020.**

2020 Report			**Miami Plant**				**Ottawa Plant**				
Substance (Unit)	**Maximum Allowed (MCL*)**	**Ideal Goals (MCLG)**	**Highest Level Detected**	**Range of Detection**	**Violation**	**Year Sampled**	**Highest Level Detected**	**Range of Detection**	**Violation**	**Year Sampled**	
Regulated at the Treatment Plant											
Fluoride (ppm)	4	4	**1.02**	0.81-1.07	**No**	**2020**	**0.99**	0.81-1.05	**No**	**2020**	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (ppm)	10	10	**0.926**	0.194-0.926	**No**	**2020**	**2.12**	0.574-2.12	**No**	**2020**	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Turbidity (NTU)	TT = 1	N/A	**0.12**	0.01-0.12	**No**	**2020**	**0.04**	0.01-0.04	**No**	**2020**	Lime softening residuals; Soil runoff.
	TT: > 95% must be < 0.3		**100% < 0.3[1]**				**100% < 0.3[1]**				
Total Organic Carbon (TOC) (ppm)	TT	N/A	**0.67[2]**	0.56-0.79	**No**	**2020**	**0.55[2]**	0.48-0.63	**No**	**2020**	Naturally present in the environment.
Barium (ppm)	2	2	**0.038**	N/A	**No**	**2020**	**0.060**	N/A	**No**	**2020**	Discharge from metal refineries; Erosion of natural deposits.
Regulated at the Customer's Tap											
Lead (ppb)	AL = 15	0	**4.1**	No samples > AL ND – 8.7	**No**	**2020**	**4.1**	No samples > AL ND – 8.7	**No**	**2020**	Corrosion of household plumbing materials; Erosion of natural deposits.
Copper (ppm)	AL = 1.3	1.3	**0.047**	No samples > AL ND –0.59	**No**	**2020**	**0.047**	No samples >AL ND –0.59	**No**	**2020**	
90% of samples were less than 4.1 ppb for lead and less than 0.047 ppm for copper. Lead and copper were not detected in most of the water samples. Results from samples collected in 2020.											
Regulated in the Distribution System											
Trihalomethanes (THMs) (ppb)	80[3]	N/A	**29.68[3]**	15.424-40.3	**No**	**2020**	**29.68[3]**	15.424-40.3	**No**	**2020**	By-product of drinking water chlorination.
Haloacetic Acids (HAA5s) (ppb)	60[3]	N/A	**6.4[3]**	ND-8.7	**No**	**2020**	**6.4[3]**	ND-8.7	**No**	**2020**	By-product of drinking water chlorination.
Chlorine (ppm)	MRDL = 4	MRDLG = 4	**1.26[4]**	1.18-1.34	**No**	**2020**	**1.26[4]**	1.18-1.34	**No**	**2020**	Water additive used to control microbes.

Unregulated Compounds – concentration in ppm, ppb, & ppt(average and range are shown for water plant effluent samples)

2020 Report			Miami Plant				Ottawa Plant				Typical Source of Contaminants
Substance (Unit)	Maximum Allowed (MCL*)	Ideal Goals (MCLG)	Highest Level Detected	Range of Detection	Violation	Year Sampled	Highest Level Detected	Range of Detection	Violation	Year Sampled	
Bromodichloromethane (ppb)	N/A	N/A	**1.53**	1.44-1.63	N/A	**2020**	**1.68**	1.22-2.46	N/A	**2020**	By-products of drinking water chlorination.
Bromoform (ppb)	N/A	N/A	**0.38**	ND-0.58	N/A	**2020**	**ND**	ND	N/A	**2020**	
Chloroform (ppb)	N/A	N/A	**0.881**	0.785-0.933	N/A	**2020**	**1.42**	1.04-2.11	N/A	**2020**	
Dibromochloromethane (ppb)	N/A	N/A	**1.67**	1.57-1.88	N/A	**2020**	**1.43**	1.08-2.15	N/A	**2020**	
Cis- 1,2 dicholoroethene(ppb)	N/A	N/A	**0.20**	ND-0.778	N/A	**2020**	**ND**	ND	N/A	**2020**	
Perfluorooctanoic Acid (ppt) PFOA	N/A	N/A	**ND[6]**	ND	N/A	**2020**	**ND[6]**	ND	N/A	**2020**	Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals applied to many industrial, commercial and consumer products to make them waterproof, stain resistant or nonstick. PFAS are also used in products like cosmetics, fast food packaging, and a type of firefighting foam called aqueous film forming foam (AFFF) which are used mainly on large spills of flammable liquids, such as jet fuel. PFAS are classified as contaminants of emerging concern, meaning that research into the harm they may cause to human health is still ongoing.
Perfluorooctanesulfonic Acid (ppt) PFOS	N/A	N/A	**ND[6]**	ND	N/A	**2020**	**8.27[6]**	ND-12.2	N/A	**2020**	
Perfluorohexanesulfonic Acid (ppt) PFHxS	N/A	N/A	**ND[6]**	ND	N/A	**2020**	**9.43[6]**	7.5-12.7	N/A	**2020**	
2-methoxyethanol(UCMR4) (ppb)	N/A	N/A	**15.9**	15.9-15.9	N/A	**2018**	**10.1**	10.1-10.1	N/A	**2018**	These contaminants were detected during Unregulated Contaminant monitoring. Additional contaminants were monitored and not detected. For additional information please call (937) 333-6093
HAA5 (UCMR4) (ppb)	N/A	N/A	**5.84**	3.7-10.4	N/A	**2018**	**5.84**	3.69-10.44	N/A	**2018**	
HAA6Br (UCMR4) (ppb)	N/A	N/A	**6.81**	2.9-11.8	N/A	**2018**	**6.81**	2.86-11.83	N/A	**2018**	
HAA9 (UCMR4) (ppb)	N/A	N/A	**10.33**	5.9-17.5	N/A	**2018**	**10.33**	5.89-17.49	N/A	**2018**	

1 Dayton complied with requirements for every month in 2020. Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1 NTU at any time. As reported above, the City of Dayton's highest recorded turbidity result for **2020** at **Miami Plant** was 0.12 NTU and lowest monthly percentage of samples meeting the turbidity limits was **100%**, and at **Ottawa Treatment Plant** was 0.04 NTU and lowest monthly percentage of samples meeting the turbidity limits was **100%.**

2 Dayton complied with alternate compliance criteria for TOC regulations under the D/DBP Rule. The level reported is "average".

3 Highest running annual average.

4 Highest running quarterly average

5 In 2020 there were 0 distribution samples were positive for coliform bacteria. There were 1,504 samples analyzed.

6 Health Action Levels for PFAS. PFOA: 70 ppt, PFOS: 70 ppt, Combined PFOA + PFOS: 70 ppt, PFHxS: 140 ppt

Definitions

***MCL = Maximum Contaminant Level** – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG = Maximum Contaminant Level Goal – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

NTU = Nephelometric Turbidity Units (measure of "cloudiness")

MRDL = Maximum Residual Disinfectant Level – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG = Maximum Residual Disinfectant Level Goal – The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

TT = Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.

AL = Action Level – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements for a water system.

picocuries per liter (pCi/L) are units of measure of radioactivity

N/A = Not applicable > greater than < less than **ND** = Not detected

Parts per Million (ppm) are units of measure for concentration of a contaminant. A part per million corresponds to one second in 11.5 days.

Parts per Billion (ppb) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

Parts per Trillion (ppt) are units of measure for concentration of a contaminant. A part per trillion corresponds to one second in 31,710 years.

Other Information

City of Dayton Department of Water had a current unconditioned license in 2020 to operate our public water system.

Lead Information

"If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Dayton is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at *http://www.epa.gov/safewater/lead*." **Paint chips and other exposures are significant sources of lead exposure. Lead was not detected in most of the samples collected at City of Dayton homes. Call 937-333-6093 for details.**

Health Information

Some people may be vulnerable to contaminates in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health

Source Water Assessment

The Ohio EPA conducted a source water assessment of Dayton's water source. The assessment concluded that the aquifer supplying water to the City of Dayton's well fields has a high susceptibility to contamination. This determination is based on: the influence of surface water recharge to the aquifer; the presence of a relatively thin protective layer of clay overlying the aquifer; the shallow depth of the aquifer; contaminant plumes in Dayton's well field protection area; the presence of significant potential contaminant sources in the protection area; and the presence of contaminants in treated water. More information about the source water assessment or what consumers can do to help protect the aquifer is available by calling the Division of Environmental Management at (937) 333-3725.

Unregulated Contaminant Monitoring

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. In 2018 Dayton Public Water system participated in the fourth round of the Unregulated Contaminant Monitoring Rule (UCMR 4). For a copy of the results please call Brandon Turner at 937-333-6030.

In 2014 and 2015 the City of Dayton participated in UCMR3 which required monitoring for Per- and Polyfluoroalkyl substances (PFASs). This monitoring revealed no detections of PFASs above the health advisory limit. In April 2016, the city proactively decided to discontinue use of production wells located near the Tait's Hill area, due to suspected of contamination at Dayton's Fire Training Center. The City of Dayton also started a monitoring program for PFAS and no detections at or above the health advisory limit of 70 ppt were found in finished drinking water, however some detections were made in the monitoring wells located in the Tait's Hill and Huffman Dam areas of the Mad River Wellfield. In 2017 the City of Dayton complied with all of Ohio EPAs requests for sampling for PFAS. We continued to proactively sample the monitoring wells installed that have PFAS detections and monitor our finished water that is supplied to all our consumers. No finished water detections for PFAS occurred in 2017. In 2018 Dayton Public water System began monthly monitoring of finished water at both the Miami and Ottawa Treatment Plants. All finished water levels have been below the 70 ppt health advisory limit. The City of Dayton is committed to maintaining a safe drinking water supply and continues to work with Ohio EPA to address new and emerging contaminants. Monthly Sampling of finished water at both treatment plants continued through all of 2019 and 2020. ***In 2020, our PWS was sampled as part of the State of Ohio's Per- and Polyfluoroalkyl Substances (PFAS) Sampling Initiative. Results from this sampling indicated PFAS were detected in our drinking water below the action level established by Ohio EPA. Follow up monitoring is being conducted. For more information about PFAS, and to view our latest results please visit pfas.ohio.gov.***

For More Information

City of Dayton citizens can participate in decisions about water quality by attending City Commission meetings and Environmental Advisory Board meetings. Call the Water Department Administration Office at 333-3734 for meeting dates and times. For more information on water quality: City of Dayton Water Dept., 3210 Chuck Wagner Lane, Dayton, Ohio 45414 or call 937-333-6093.